



(12) **Patent Application Publication**
Andrien, JR. et al.

(43) **Pub. Date:** **Jul. 25, 2002**

(52) U.S. Cl. 250/288

(57) **ABSTRACT**

Multiple sample introduction means have been configured in Atmospheric Pressure Ion sources which are interfaced to mass analyzers. Different samples can be introduced through multiple Electrospray (ES) or Atmospheric Pressure Chemical Ionization (APCI) probes individually or simultaneously and ionized. The gas phase ion mixture resulting from individual solutions sprayed from multiple ES or APCI probe inputs is mass analyzed. In this manner a calibration solution can be introduced through one ES or APCI probe while one or more sample solutions are spray from additional probes. Simultaneous spraying of calibration and sample solutions, results in an acquired mass spectrum containing peaks of ions with known molecular weights as well as sample related peaks. The calibration peaks can be used as an internal calibration standard during data analysis. Acquisition of mass spectra containing internal calibration peaks can be achieved by spraying different solutions simultaneously from multiple inlet probes without having to mix calibration and sample solutions in the liquid phase. Arrangements of ES and APCI probes can be configured in one API source chamber and the solution flow through any combination of ES or APCI probes can be switched on or off during an analytical run. A single mass analyzer can serve as a detector for multiple separation systems each delivering sample solution through separate ES or APCI inlet probes into an atmospheric pressure ion source.

(22) Filed: Dec. 6, 2000

Related U.S. Application Data

(60) Provisional application No. 60/058,683, filed on Sep. 12, 1997. Provisional application No. 60/076,118, filed on Feb. 27, 1998. Provisional application No. 60/087,256, filed on May 29, 1998.

Publication Classification

(51) **Int. Cl.⁷** **H01J 49/00**; **B01D 59/44**

